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DOWN THE DRAIN

The Great Lakes are losing water at an alarming rate.
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Showdown
Down Under
page 24

The St. Johns: A Treasure
Worth Fighting For
page 28

Winter 2009

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Steve Fleischli

Letter from the President

Red and Blue Make Green

The environmental community has a real reason to celebrate: a regime in Washington set on wrecking or reversing decades of hard-won progress on the environment has been replaced by a president who appears committed to a green agenda. Given the sad record of failure, obstructionism and outright hostility compiled by the EPA over the last eight years, the need to act on this new agenda is urgent. But during this transition, while partisanship is at a low ebb and rancor over foreign policy and fiscal issues has yet to dispel the aura of good feelings, perhaps the smartest thing we can do is to reach across the aisle to find common ground with like-minded citizens (regardless of party affiliation) who share our concern for the environment.

Along with vocal opposition to George W. Bush's environmental policies, many environmentalists disagreed with other of his administration's actions. But I wholeheartedly believe that viewing someone as an environmental ally should not be contingent on their subscribing to a particular set of positions on the Iraq War, gay marriage, taxes, or abortion.

Unfortunately, in recent years the environmental movement has too often been equated with the Democratic Party and its entire platform. This dilutes rather than strengthens our movement. It makes

us a partisan appendage and precludes our appeal to the broadest possible spectrum of Americans. Democrats, Republicans, Independents—anyone who cares about the future of the planet and our children—should feel welcomed in the environmental movement.

I don't want to minimize the strong environmental records of many Democrats. They've won support among environmentalists the old-fashioned way: they earned it. But Republicans have many achievements they can be proud of too. In fact, it was President Theodore Roosevelt who brought land conservation to the national forefront. And President Richard Nixon helped enact numerous federal environmental laws, as well as created the EPA. (Yes, he also vetoed the Federal Water Pollution Control Act—which was then overridden by Congress 247-23 with the help of some prominent Republicans of the day.)

To this day, there are leading Republicans who have continued to honor their party's tradition of environmental activism. Senator Lincoln Chafee (R-RI) lost the 2006 election because of his party affiliation, but no one can deny his solid stance on environmental issues. He showed true grit, for example, by opposing President Bush's Clear Skies Initiative, which would have undermined the

distinguished environmental legacy of his late father, Senator John Chafee (R-RI). Representative Wayne Gilchrest (R-MD) won regular praise from grassroots activists for his work in restoring Chesapeake Bay. And Governors Schwarzenegger (R-CA) and Crist (R-FL) have shown real leadership in promoting solutions to climate change.

Leaders within the Democratic Party are quick to point out that Democrats haven't co-opted the environmental movement; rather, Republicans abandoned it. In some respects, they're right. During President Bush's disastrous tenure, he consistently chose corporate cronyism over environmental protection, promoted loopholes and roll-backs as "innovative" solutions, and adopted the approach that if we can't meet certain standards, then let's lower our expectations.

The failure of the Bush administration, however, does not mean that Republican *citizens* have abandoned the environmental movement. Republicans from all walks of life, all across America, are fighting to save, protect and restore our environment. I see it all the time in the Waterkeeper movement: Republican Waterkeepers and their supporters are as deeply committed as Waterkeepers of other political stripes to creating a world in which clean air and clean water are

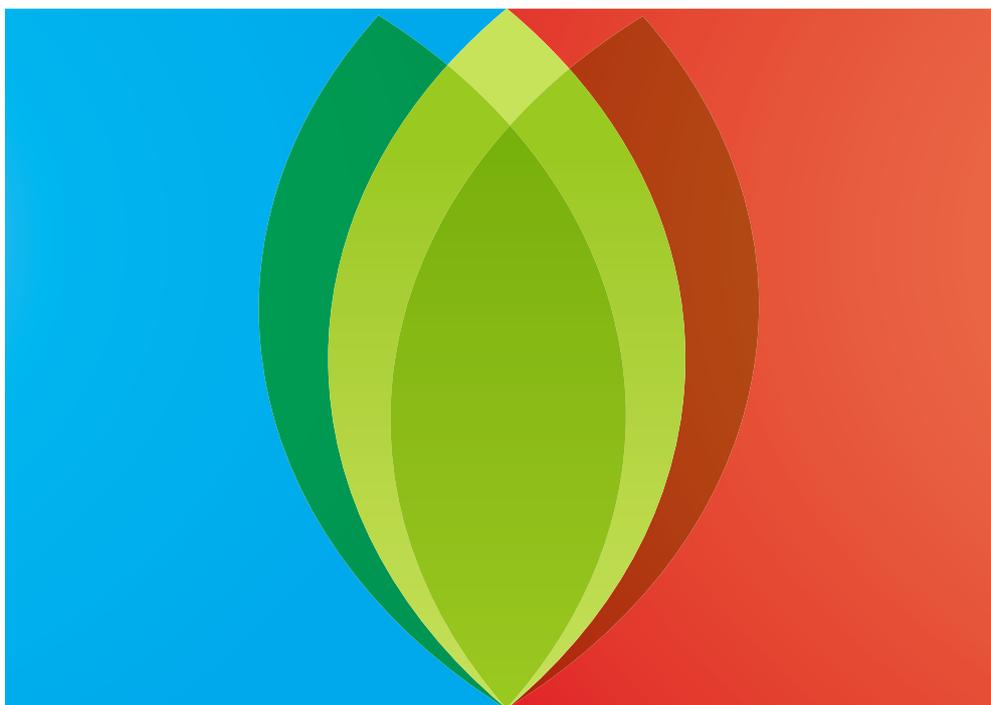
the birthright of every child—and one in which the potential for global catastrophe inherent in our current environmental policies is confronted and solved.

Fiorello LaGuardia, a Republican considered by many to be one of the greatest mayors in the history of New York or any American city, famously remarked, “There’s no Democratic or Republican way to pick up garbage.” So too with the environment: There is not—nor will there ever be—an answer to our immense and complex environmental crisis that can be devised by *one and only one political party*. None of us has a monopoly on good ideas.

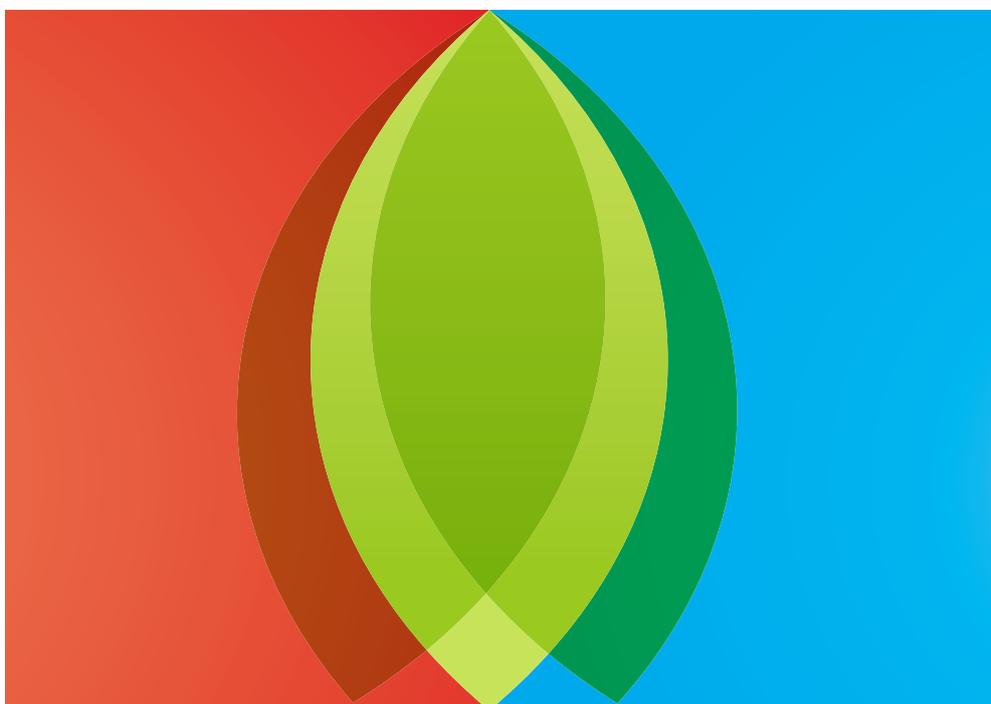
What matters is not what party you are in, but whether you’re willing to join the fight to save our water and air. If you are, welcome aboard. We’re glad to have you. A broad-based environmental movement made up of people concerned about issues rather than party purity is our best chance for positive change. I guarantee that when confronted by a broad coalition of Americans united in their determination to find pragmatic solutions to real problems, politicians will follow.

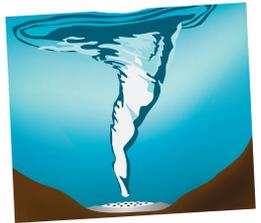
That coalition is already forming. Four out of five Americans want stronger environmental regulations or stricter enforcement of existing laws. The electorate is growing increasingly intolerant of candidates who espouse hatred toward the planet, regardless of tempting positions on other issues. We saw evidence of this in the ousting of Representative Richard Pombo (R-CA) in 2006. Why should there ever be another election where the environment loses?

The rapidly increasing gravity of the global environmental crisis demands that we act *now*. If we don’t, no one will be immune to the consequences. Just as important, no one should be barred or discouraged from taking an active part because of their party affiliation (or lack of it). We’re all in this boat together. Our survival will depend largely on our willingness to put aside our differences and do what is best for the environment that sustains us all. There’s no Democratic or Republican way to save our planet. ■



Our survival will depend on putting aside our differences and doing what’s best for the environment that sustains us all. There’s no Democratic or Republican way to save the planet.





ON THE COVER

From the Great Lakes to Florida to South Australia, Waterkeepers are battling massive water diversions that threaten the health of their lakes, rivers and wetlands.

Illustration by Amy Lamp

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Who is Waterkeeper Alliance?

Ottawa Riverkeeper Meredith Brown is an environmental engineer, a community educator and, like Waterkeepers everywhere, a passionate advocate for her river and watershed. “The Ottawa River is the lifeblood of this area,” Brown says, “but sometimes it takes a little bit of prodding to remind people of that.” (You can read about one of Ottawa Riverkeeper’s recent victories on page 22.)

Waterkeeper Alliance is a powerful worldwide coalition of nearly 200 local Waterkeeper Programs — Riverkeeper, Baykeeper, Coastkeeper and other grassroots Waterkeeper organizations connected into a unified international force for environmental protection.



Meredith Brown, Ottawa Riverkeeper

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Think of all the water in the world. It flows from our taps, sprinklers and massaging showerheads. It rains from the heavens in droplets and in sheets. So how is it that we are in the midst of a global water crisis?

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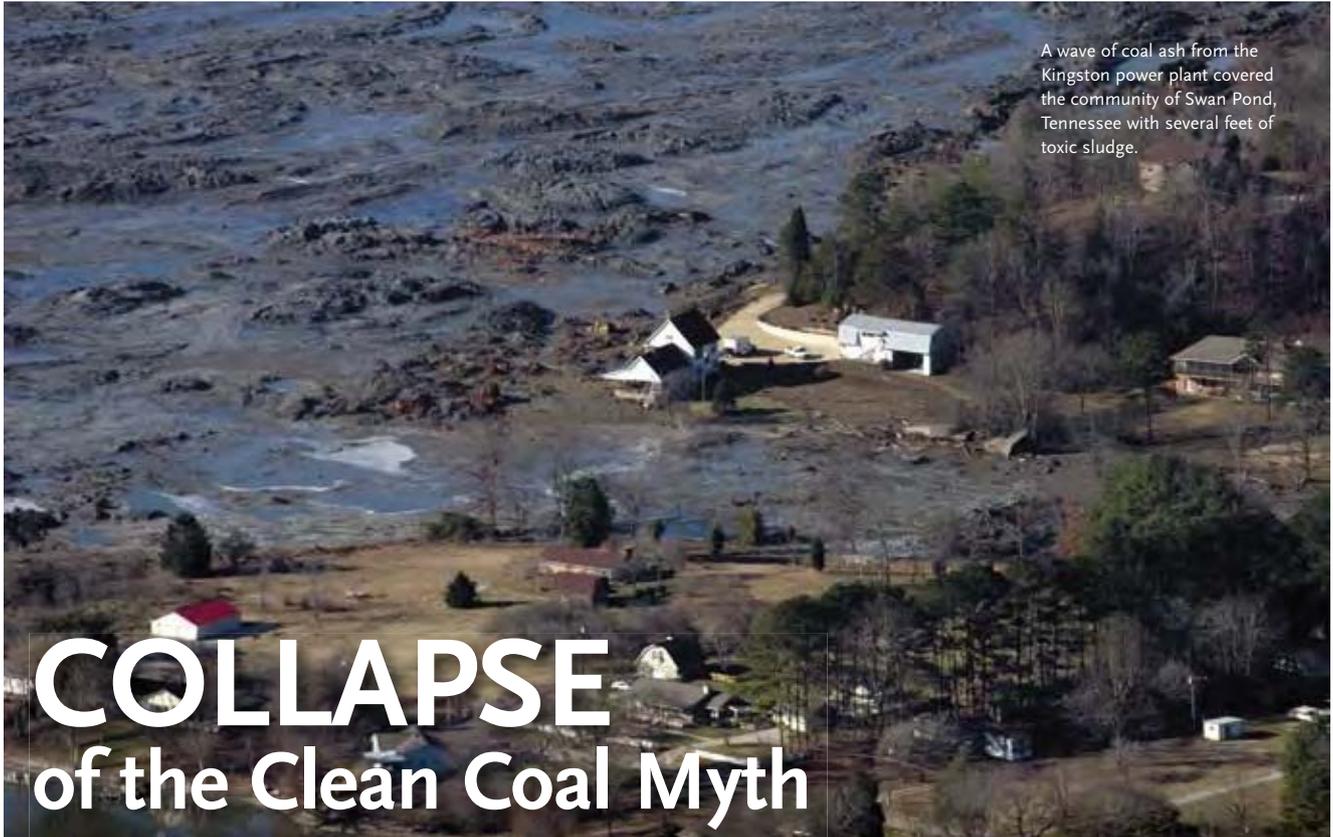


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{ { Ripples } } }



A wave of coal ash from the Kingston power plant covered the community of Swan Pond, Tennessee with several feet of toxic sludge.

COLLAPSE of the Clean Coal Myth

On December 22, 2008, more than a billion gallons of toxic coal ash sludge broke through an earthen dike at the Tennessee Valley Authority's Kingston coal plant in eastern Tennessee.

The unlined, 40-acre containment pond had years' worth of coal waste stored behind it when the retaining wall collapsed. In a matter of seconds, an enormous gray and black wave of coal waste covered almost 300 acres and spilled into the Emory River where it caused a massive fish kill. Homes, power lines, and roads were damaged or destroyed by a 4-foot-thick layer of coal waste.

Long plumes of floating coal waste polluted both the Emory and Clinch rivers many miles downstream from the site of the spill. The two rivers are tributaries of the Tennessee River, which supplies drinking water to millions of people.

Five days after the spill, Hurricane Creekkeeper John Wathen, Watauga Riverkeeper Donna Lisenby and Sandra Diaz, national field coordinator for Appalachian Voices, traveled to the site to conduct independent water quality sampling.

They sampled water from three locations — near the spill site, about half a mile downstream and about two miles downstream. As they paddled up the Emory River,

they were surrounded by hundreds of massive accumulations of ash that floated on top of the water. Some of these "ashbergs" rose more than 5 feet over their heads.

As they were taking water samples in the ashberg zone, they were stopped by a TVA security officer in a motorboat who issued them warning citations for criminal trespass.

The threesome's water samples were analyzed by Dr. Shea Tuberty at Appalachian State University's Environmental Toxicology lab.

Although TVA officials initially assured residents that the sludge was harmless, the lab's testing showed levels of arsenic, lead, chromium and other metals at 2 to 300 times higher than drinking water standards.

"These are some of the most astonishing water-quality sampling results I've seen in my 10 years of working on rivers," said Lisenby.

But it was *The New York Times* that, perhaps, had the last word on the spill in an editorial in late January titled "Collapse of the Clean Coal Myth": "...coal remains an inherently dirty fuel, and a huge contributor to not only ground-level pollution — including acid rain and smog — but also global warming. The sooner the country understands that, the closer it will be to mitigating the damage."

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Legal Victory Over Honeywell Secures Clean, Green Future for Hackensack River Watershed

Hackensack Riverkeeper won an historic victory last May when Honeywell, Inc., agreed to remove chromium and other toxic sediments in and around the Hackensack River. Chromium waste is one of the most widespread and insidious pollutants threatening the Hackensack River watershed. Hundreds of millions of tons of it lie buried throughout New Jersey's Hudson County, much of it along the Hackensack's banks and on its bottom. Among the slew of contaminants, the worst is hexavalent chromium, a known human carcinogen.

Back in 2004, Hackensack Riverkeeper joined a successful lawsuit that resulted in court-mandated criteria for cleaning up the site. Honeywell had contended that merely capping the 50 million tons of chromium-contaminated soil was enough to ensure the safety of nearby residents and protect the Hackensack River. As a result of that lawsuit, brought under the federal Resource Conservation and Recovery Act (RCRA), Honeywell was required to conduct, at its own expense, a \$500 million federally-supervised cleanup of the site.

Two years ago, Hackensack Riverkeeper filed a second RCRA case to ensure that Honeywell cleans up company-owned lands adjacent to the original site. A series of negotiations resulted in the historic settlement on May 28, 2008.



With cleanup work at Area 7 well underway, Hackensack Riverkeeper's recent settlement will address the chromium-laden sediments at the bottom of the Hackensack River.

The new settlement requires the removal of the most heavily contaminated sediments from the adjacent riverbed, creation of wetlands on and around the capped sediments and the abatement of two combined sewer system outfalls. Settlement negotiations also resulted in the provision by Honeywell of a \$5 million fund to assist both future environmental improvements and affordable housing opportunities in Jersey City.

The final outcome of this victory will be 100 acres of remediated property that will be redeveloped to suit both environmental standards and public needs. Twenty-five of those acres will be redeveloped as riverside parkland on which Hackensack Riverkeeper will hold a conservation easement.

Saved by the Basinkeeper!

The campaign that Atchafalaya Basinkeeper Dean Wilson and his group have waged over the past five years has reached its goal: All cypress logging in coastal Louisiana has stopped.

The basin of the Atchafalaya River, a 135-mile long branch of the Mississippi River, contains the largest contiguous bottomland hardwood forest in North America. It is the home of more than 300 bird species, supports half of America's migratory waterfowl and provides the most important habitat for neotropical migratory land birds in the Western Hemisphere. More than 100 species of fish and crustaceans live in the Basin as well. The unique environment provided by cypress trees is critical to the survival of all this wildlife. Cypress forests are also the most effective barrier against hurricanes—much stronger and cheaper than man-made levees.

But unsustainable logging to feed an insatiable demand for cypress garden mulch threatened to destroy the cypress forests of the Louisiana wetlands forever; cypress trees can live in high water, but they require dry land to germinate—seedlings can't survive if submerged for more than 45 days. In the Atchafalaya Basin, unnaturally high spring flooding caused by wetlands destruction has made regeneration impossible.

Wilson, co-founder of the Save Our Cypress Coalition, persuaded Wal-Mart executives to come see the forests that their mulch sales were putting at risk; they agreed to stop buying Louisiana cypress mulch. Lowe's and Home Depot agreed to stop selling cypress mulch from coastal Louisiana, but they still sell unsustainable harvested cypress mulch.

From the very beginning, Wilson believed that most cypress logging (and the accompanying wetland destruction) was illegal under both Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. Section 10 was being enforced by the Corps of Engineers, but EPA was blocking enforcement of Section 404. Wilson organized a lobbying trip to Washington, D.C., for representatives of a coalition of environmental groups to complain about the lack of enforcement of Section 404 and to educate top EPA officials about why the logging was illegal. Next, top EPA officials from Region 6 came to Louisiana to see the problem first hand. Wilson took those officials and the chief enforcement officer of the New Orleans District of the Corps of Engineers into the Atchafalaya swamps to show them that cypress regeneration was not possible for most of coastal Louisiana. EPA agreed and, for the first time, is enforcing Section 404 of the Clean Water Act on illegal logging operations in the region. The Atchafalaya Basinkeeper—with the help of volunteer pilots from SouthWings, a regional nonprofit serving environmental groups—is the only organization that monitors for illegal logging throughout coastal Louisiana, thereby helping the Corps of Engineers to identify, document and ultimately stop illegal logging operations.

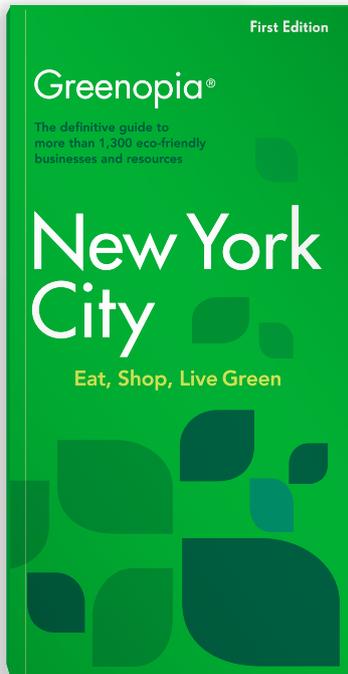
A monitoring flight this past October, which is the peak of logging season, revealed that the last known cypress mulch facility in coastal Louisiana had no new cypress logs. From the air, no logging sites could be seen in any of coastal Louisiana's major forested basins and there have been no trucks with cypress logs on the highways. Today, the Atchafalaya Basinkeeper is recognized as a national leader in the movement to stop the unsustainable cypress mulch industry in the United States.





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—The New York Times online



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Friends of the Kaw's Calwell Honored

EPA Administrator Stephen L. Johnson honored Friends of the Kaw Board Member Mike Calwell with the President's Volunteer Service Award in July. Over the past five years, Calwell's dedicated leadership has been crucial to the construction of five new access ramps to the Kansas (Kaw) River; five more access ramps are in the planning stages. The ultimate goal is to establish the Kansas River as a 171-mile linear park in northeast Kansas. Calwell is the husband of Kansas Riverkeeper Laura Calwell.



Magdalena Baykeeper Wins Condé Nast Traveler Environmental Award

For almost twenty years, *Condé Nast Traveler* has honored visionaries worldwide who have beaten the odds to prevail in battles to protect the environment. From hundreds of nominations, one winner and three runners-up are selected. Magdalena Baykeeper Julio Solís won recognition as a Runner-up for this year's *Condé Nast Traveler* Environmental Awards in August.

Solís found his calling as a conservationist while working as a guide for scientists and travelers seeking turtle watching opportunities in Magdalena Bay, formally known as Bahía Magdalena, located on the western coast of Mexico's Baja California Sur. With the help of environmentalists he met on the job, he started Magdalena Baykeeper in 2005. Realizing that the health of the bay's ecosystem relied on the community's involvement, Solís started a series of beach cleanups followed by awareness-raising talks about water-quality issues.

Solís's major victory came in 2007, when he led the successful campaign to halt the development of a mega-resort, Magdalena Secret, on the bay. The resort would have covered 551 coastal acres with hotels and golf courses. A review of the environmental impact statement revealed the absence of plans for mangrove protection or for adequate trash and sanitation facilities. Solís forced the developer to address local concerns at community meetings, and intensified his efforts when answers were not forthcoming.

Solís also promotes conservation by driving in auto races with the Baykeeper logo and pictures of turtles on his car. "Racing shows men and boys that conservation is cool," Solís says. "After the race, the kids come up to the car and we hand out stickers and talk about the turtles. I wouldn't trade that feeling for the world."

First Victory for Russian Waterkeepers



An investigation by Waterkeepers Russia last summer revealed high levels of contamination in the vicinity of an industrial paper mill owned by Elicon on the banks of the Vyatka River in Russia's Kirov region. Pollution and debris were visible on the surface, and independent laboratory results proved positive for illegal levels of metals and oil. If ingested, these pollutants are extremely toxic and can cause severe damage to the human nervous and gastrointestinal systems.

Elicon was officially proved to have discharged into the river illegally. After Waterkeepers Russia filed a complaint, Elicon was found to have violated both local and federal environmental protection laws. Elicon was fined 30,000 rubles (\$1,100) and must also contribute 3,900,000 rubles (\$142,000) to the government for remediation and clean-up purposes.

Elicon has already installed a new filtration system, but that is just one facet of this victory. Equally important, support from local communities and the press proved a pleasant surprise and won government attention and action.



Во время одного из летних рейдов по реке Вятке, «Хранители Вятки» выявили повышенное загрязнение воды в районе стока Бумажной фабрики «Эликон».

Результаты химического исследования были следующие: выбросы действительно оказались вредными, с нарушением предельно допустимого сброса летучих фенолов, нефтепродуктов и железа.

После направления в контролирующий природоохранный орган жалобы, государственный орган был обязан откликнуться на эту жалобу и провести экологическую проверку фабрики.

Таким образом, было выявлено нарушение компанией «Эликон» федерального закона «Об охране окружающей среды» в части соблюдения технологий эксплуатации очистных сооружений, а также Российского Водного Кодекса в части соблюдения норм сброса.

Компания «Эликон» была привлечена к административной ответственности в виде штрафа в размере тридцать тысяч рублей, а также была обязана устранить экологические последствия загрязнения.

Нужно отметить, что реакция прессы на наши действия по защите реки Вятки превзошла все ожидания: несколько местных телеканалов освещали наши навигации и следили за развитием событий.

Кроме того, фабрике предъявлен иск на сумму 3 млн. 900 тыс. рублей в пользу государства – это величина нанесённого ущерба природе. К настоящему моменту компания уже установила новое очистительное оборудование.

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On December 6, 2008, more than two hundred celebrities and corporate leaders came together for the **Waterkeeper Gala at Deer Valley Celebrity Skifest** to show their support for the most urgent environmental issue of our time: **CLEAN WATER**. We would like to give thanks to our generous auction and event sponsors for making this event a success!

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Beluga Whale Granted Protection Under Endangered Species Act

Despite political pressure from whale-protection opponents in the oil and gas industries and local governments, in October the National Marine Fisheries Service formally listed Alaska's Cook Inlet beluga under the U.S. Endangered Species Act.

For the past decade, Cook Inletkeeper has been working to protect the Cook Inlet beluga whale. This unique and isolated beluga population failed to recover from sharp population declines in the 1990's, and, in 2006, Inletkeeper led a coalition of a dozen groups in petitioning the National Marine Fisheries Service to add the whale to the endangered species list. "This is a long awaited triumph of science over politics," said Cook Inletkeeper Bob Shavelson.

Now Inletkeeper is working to ensure that the fisheries service designates critical habitat for the beluga. Inletkeeper has joined Native Alaskan and commercial fishing groups in a lawsuit to spur the U.S. Environmental Protection Agency to take action to stop toxic oil and gas dumping in Cook Inlet's rich fisheries by Chevron and other companies.

Velsicol Chemical to Clean Up Pollution

In a major win for the Chester River watershed, Velsicol Chemical Corporation signed a consent decree in July, agreeing to clean up contaminated soil and groundwater at its plant in Worton, MD. The Maryland Department of the Environment filed the suit last fall after the Chester River Association (CRA) alerted state officials about chronic polluting practices. Commenting on CRA's advocacy initiative, state Attorney General Doug Gansler said, "I applaud the strong advocacy of the Chester River Association for bringing our attention to this significant environmental matter. It is my hope that their actions set an example for others to be a strong voice in our efforts to improve the health of the Chesapeake Bay."

Velsicol, without admitting wrongdoing, agreed in the 23-page settlement to pay \$200,000 into the Maryland Clean Water Fund and to do significant remediation on the site. Samples taken by CRA have shown the plant to be discharging excessive amounts of phosphorus and BEHP, an organic chemical used



to make plastics. Among other things, the consent order requires Velsicol to provide the public with sampling data and the status of its remediation plans on a website.

"The outcome of this litigation seems to put in place the oversight needed to monitor this pollution source," said Chester Riverkeeper Tom Leigh. "One of the goals of the Chester Riverkeeper and CRA is to hold polluters accountable for their actions and effects on water quality."

Waccamaw Riverkeeper Honors Longtime Volunteer at Cleanup

Volunteers joined the Waccamaw Riverkeeper in the Conway, S.C., area to clean up trash in the river and on its banks on Saturday, Sept. 20. The volunteers included members of the Waccamaw Riverkeeper, other area residents, local cub and scout troops and students from Coastal Carolina University.

This year's cleanup was dedicated to a dear friend and longtime volunteer, Kelly Joe Elliott, the victim of a homicide at his home earlier that

month. Joe was a resident of Loris, S.C., born and raised in the area, an avid boater and fisherman, a lover of the Waccamaw River and a dedicated volunteer of the Waccamaw Riverkeeper.

Participants at the river cleanup each signed the official Beach Sweep River Sweep T-shirt that was given to Joe's family. In addition, each participant honored and remembered Joe by tossing a white carnation into the river that Joe loved. Joe will be sadly missed by his Waccamaw Riverkeeper.

Waterkeepers in first appearance before the Supreme Court

On December 2, Hudson Riverkeeper led several Waterkeeper groups in their first appearance before the U.S. Supreme Court in the case of Riverkeeper vs. Entergy Corp., owner of the Indian Point nuclear power plant. Entergy is petitioning the Court to halt an order requiring it to install a new cooling system for Indian Point's two nuclear reactors. The plant withdraws millions of gallons of water a day from the Hudson River to cool the reactors, killing millions of fish in the process. Riverkeeper maintains that by implementing a closed-cycle cooling system, Indian Point could reduce its water intake from the Hudson River by up to 97 percent.

The constitutional issue in question is whether or not the U.S. Environmental Protection Agency may compare costs with benefits in determining the "best technology available" (BTA) for the cooling water in-



take structures of existing power plants. Though Section 316(b) of the Clean Water Act requires power plants to employ BTA to protect aquatic life, U.S. power plants withdraw over 214 billion gallons daily from water bodies, killing billions of fish.

The case, which could affect more than 500 power plants across the country, is seen by environmentalists as a critical step in a battle spanning over three decades to ensure that the EPA requires power plants to comply with the Clean Water Act.

"The owners of Indian Point have gotten a free ride for over 30 years," said Hudson Riverkeeper Alex Matthiessen (second from left). "The Clean Water Act was passed in 1972, and they were supposed to start upgrading their technology then. It's time to pay up." A decision is expected in the spring of 2009.



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AbTech Industries Honored with Top 100 Private Companies Award

AbTech Industries has won this year's 100 Top Private Companies Award in the Water Technology category. AlwaysOn, KPMG and Morgan Stanley presented the award at GoingGreen in San Francisco in September. Glenn R. Rink, Chairman of the Waterkeeper Alliance Board of Trustees, is President and C.E.O. of AbTech, an environmental technologies firm dedicated to providing innovative solutions to communities and industries addressing issues of water pollution and bacterial contamination. AbTech is a leader in green technology and global business strategy. Venture investors, investment bankers and other industry experts nominated more than 500 companies to be considered for the GoingGreen awards, which honor companies for their leadership in the global movement for a more sustainable environment.



John Paul DeJoria Presented with Sustainability Award

John Paul DeJoria, Waterkeeper Alliance trustee and CEO of John Paul Mitchell Systems, was honored at Fashion Group International's 25th annual Night of Stars on Oct. 23 with the "Sustainability" Award for his dedication to environmental preservation.

DeJoria was presented the "Sustainability" award by Oscar-winning actress, fellow activist and friend Marcia Gay Harden. She praised the depth and breath of his philanthropy and his vision as one of the first to think about sustainability. In his

acceptance speech, DeJoria summed up his philosophy simply. "It's all about sustaining the planet, about thinking of someone other than yourself," he said.

New York City Bikes for a Day

New York City welcomed its' first-ever Bicycle for a Day (BFAD) event on Saturday, Sept. 20, at South Street Seaport. The event encouraged New Yorkers and visitors alike to experience a greener, carbon-emission-free lifestyle by traveling by bike, foot, or skates to a day of live entertainment, prize giveaways, and opportunities to learn more about the environment. The event was hosted by actor and Bicycle for a Day founder Matthew Modine and supported by green advocates and businesses, cyclists and alternative transportation organizations.

"Bicycle for a Day was founded to raise awareness of the ease and health benefits of carbon-emission-free transportation alternatives such as walking and biking," said Modine, "but also on a much broader level, to inspire and inform the public of the simple practices they can implement in their everyday lives that collectively could have a huge impact in our fight against global warming." Visitors to South Street Seaport enjoyed musical performances by artists Ben Jelen and Lukas Haas, and a group walk led by Olympian Sharon Seagrave. Matthew Modine and BFAD support the Waterkeeper Alliance and its mission.



Matthew Modine with Waterkeeper Alliance Executive Director Kristine Stratton

Buffalo Niagara Riverkeeper Earns SOLEC 2008 Success Story Award

Buffalo Niagara Riverkeeper has earned recognition by the State of the Lakes Ecosystem Conference (SOLEC) for "exceptional performance and dedication to improving the Great Lakes." The 2008 Success Story Award was presented October 21 in Niagara Falls, Ontario.

In 1987, the International Joint Commission, an independent binational organization

established by the United States and Canada, designated the Buffalo River as one of the 43 most toxic hotspots in the Great Lakes. As required under the Great Lakes Water Quality Agreement, a Buffalo River Remedial Action Plan (RAP) was completed in 1989 by NYS Department of Environmental Conservation in partnership with a local citizens advisory committee. The U.S. Environmental Protection Agency's Great Lakes National Program Office selected Friends of the Buffalo Niagara Rivers, now known as Buffalo Niagara Riverkeeper, to take over coordination of the RAP in October 2003.

Buffalo Niagara Riverkeeper was recognized for its management of the action plan over the past five years. Jill Jedlicka is the Buffalo River Remedial Action Plan Coordinator.

The first nonprofit organization to manage a RAP in the Great Lakes region, Riverkeeper is also working with various state and federal agencies on the last stages



EPA Research Vessel Mudpuppy takes core samples to measure the extent of contamination in the sediment of the Buffalo River.

of a contaminated sediment assessment and feasibility study before launching a large sediment remediation project, which could begin in 2010. Last month, Buffalo Niagara Riverkeeper announced a \$3 million partnership with the Environmental Protection Agency's Great Lakes National Program Office and Honeywell to fund this feasibility study.



A view of the lower Buffalo River showing remnants of the industrial past, the toxic legacy of which is the main reason for the Remedial Action Plan that Buffalo Niagara Riverkeeper manages.

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Ottawa: “Sewergate” Ends in Record Fines

In August 2006, Ottawa, Canada’s capital city, experienced a massive sewage spill when more than 700 million liters of raw sewage poured into the Ottawa River through a sewer gate that was stuck open. Toxic waste flooded the river for 14 days, closing a nearby swimming beach after a round of routine water sampling revealed high E.coli counts. The spill also threatened the drinking water supply of downstream communities. But the massive spill went unreported to regulators and, worse yet, unreported to the people using the river in the height of the summer swimming and paddling season.

The spill was not uncovered until the spring of 2008, when one of Ottawa Riverkeeper’s River Watchers probed with the right questions while touring the wastewater treatment plant. The media and the public responded with surprise and disgust, and the Ottawa City Council ordered an investigation into the spill. The city’s auditor found that regulations had been ignored and that sewage treatment plant managers, who were professional engineers, had failed to perform their duties. The city fired three employees and suspended a fourth.

With Canada’s elections looming, federal and provincial politicians began pledging millions of dollars to Ottawa to fix its sewage infrastructure. The Ontario Ministry of the Environment fined the City of Ottawa \$562,500, the biggest pollution fine ever imposed on an Ontario municipality. As a result, after heavy rains, inspections of all combined sewer gates are now mandatory in Ottawa, preventing any accidental drainage of raw sewage into the river. The City of Ottawa also donated \$50,000 to Ottawa Riverkeeper. Federal, provincial and municipal governments subsequently allocated \$99 million to improve sewer infrastructure in Ottawa.

Hurricane Creek’s M-Bend Protected Forever

Last July, the Tuscaloosa County Commission unanimously approved the acquisition of a 250-acre parcel of land known as the M-Bend on the banks of Hurricane Creek, a major tributary of the Black Warrior River in Alabama.

John Wathen, Hurricane Creekkeeper, had made a deal with the land’s owner: If Wathen could find a willing buyer, the property would be protected.

Charles Scribner, Director of Development for Black Warrior Riverkeeper, put John in touch with the Trust for Public Land (TPL), a national land conservation organization. Providing excellent maps, pictures, and biological information about this vital area, Wathen convinced TPL to visit the M-Bend.

TPL agreed to purchase the property if Wathen could find a receiver for the deed. Wathen suggested the Tuscaloosa County Park & Recreation Authority (PARA). PARA and TPL met, and agreed to move forward with protecting this beautiful and biologically diverse property. The Tuscaloosa County



Aerial view of the M-Bend. “The people of Tuscaloosa have been hoping for public access to Hurricane Creek for years,” said John Wathen. “With this purchase, we were able to make that dream come true.” Flight provided by SouthWings.org.



Found in rare abundance throughout the Hurricane Creek watershed, *Rhododendron alabamense*, or the Alabama Azalea, has snowy white flowers with a prominent yellow blotch. Blooming in midseason, the flowers have a distinct lemon-spice fragrance and measure 0.8 to 1.5 inches across.

Commission’s vote sealed the deal.

The land will now remain undeveloped forever, giving citizens access to a great outdoor destination along Hurricane Creek. Upon learning of this milestone, renowned biologist and Pulitzer-Prize-winning author Edward O. Wilson sent

Wathen the following message: “It was the fall of 1946 that I first visited Hurricane Creek as a 17-year-old freshman at the University of Alabama. Through the years I’ve wanted to see the Creek made into a nature reserve. It’s a thrill to see it now preserved for future generations.”

Santa Barbara Channelkeeper Fills Gap Left by Local Government

Santa Barbara Channelkeeper is testing water quality at local beaches to fill a gap left by Santa Barbara County, which cut funding for its decade-old Ocean Monitoring Program this summer.

Since 1996, County Environmental Health officials tested beaches for bacteria weekly and published the results on its website. But the county eliminated funding for monitoring in the County Environmental Health Department FY 2008-09 budget, then Gov. Schwarzenegger cut state funding to support counties’ summertime beach monitoring in October.

Major Court Victory for the Passaic River Has Wide Ranging Implications

In the seemingly endless battle to clean up the Passaic River, the New Jersey Department of Environmental Protection (NJDEP) has won an important victory. Since 2004, when Hackensack Riverkeeper and NY/NJ Baykeeper joined forces to create the Passaic River Patrol, the Waterkeepers have done more than turn up the heat on polluters and educate thousands of people about the much-maligned river's plight. Their advocacy has also provided much-needed support to NJDEP's legal effort to force the worst of the Passaic's polluters to "come clean."

On September 5, Essex County Superior

Court gave the department the green light to continue its suit to recover the costs of remediating severe dioxin contamination from several local and foreign defendants, including a Spanish-owned oil company, Repsol YPF, S.A., and its Argentina-based subsidiary YPF, S.A.

Dioxin is a carcinogen that causes serious health conditions including birth defects, liver damage, reproductive disorders and chloracne—a disfiguring skin disease. Extremely persistent once released into the environment, it accumulates in the tissues of humans and animals exposed to it. The dioxin has migrated throughout the lower 17

miles of the Passaic and also to the lower reaches of the Hackensack River, as well as other areas. As a result, the lower Passaic River has been officially declared a "DO NOT CATCH – DO NOT EAT" zone for more than 20 years, and crabbing has been banned everywhere along the affected waterways since 2000.

The DEP's original complaint, filed in 2005, named seven defendants, and this ruling allows the department to continue to pursue cleanup costs from all seven, including those companies under new ownership. The ruling is an extremely important victory for New Jersey and a giant step toward restoring the Passaic River to the valuable resource it once was (and will be again).



Tons of soil contaminated with dioxin, DDT and various other pesticides and chemicals still remain buried at the Diamond Shamrock site in Newark. The interim remedies, including a slurry wall and cement cap, were completed in December 2001.

Recognizing that this is a critical public health service for local surfers and other ocean and beach users, Channelkeeper is stepping in for the county by sampling for bacteria at Santa Barbara beaches throughout the winter.

"Channelkeeper's continuation of weekly beach monitoring will not only help keep the public informed about the safety of local beaches, but will share this important data with municipalities, agencies and others seeking to improve water quality at our beaches," said Kira Redmond, Channelkeeper's Executive Director.

Channelkeeper is working with other groups to lobby state officials to reinstate funding for summertime beach monitoring.

San Francisco Baykeeper and California Coastkeeper Alliance Spur New Oil Spill Laws

Last year, the container ship *Cosco Busan* struck the San Francisco Bay Bridge, spilling 53,000 gallons of fuel into San Francisco Bay. As the local Waterkeeper, San Francisco Baykeeper was on the scene quickly, locating oil slicks, assessing damage to the estuary and critiquing the failed agency response. California Coastkeeper Alliance, the statewide representative for the state's coastal waters, was later appointed to the Coast Guard's independent team to formally review the spill and make recommendations for improving oil-spill response statewide.



Volunteers clean up oil after the *Cosco Busan* oil spill in San Francisco Bay

In the months following the spill, San Francisco Baykeeper and California Coastkeeper Alliance testified at key State Senate and Assembly hearings and worked closely with California legislators to craft laws that would address the deficiencies in California's oil-spill policy that were revealed by the spill. This past fall, thanks in large part to the Waterkeepers' coordinated advocacy efforts, the state adopted seven new oil spill laws, which better equip local agencies to deal with spills, improve volunteer training, provide more funding for oiled wildlife care, prioritize protection of San Francisco Bay's most sensitive shorelines, and strengthen requirements for bay pilot licensing.

The Waterkeepers sponsored two of the new laws. The law sponsored by San Francisco Baykeeper will require that local emergency responders be notified of oil spills immediately, and that local agencies be trained and equipped with cleanup gear to protect the treasured Bay's shorelines. California Coastkeeper Alliance succeeded in making California's oil spill policies more comprehensive by creating a mandate for the state to address inland oil spills in lakes, rivers and creeks; half a million gallons of oil—over nine times the amount spilled by the *Cosco Busan*—reached California waters from inland spills in 2007 alone. Both of these laws, as well as the entire package of newly passed oil spill legislation, will better prepare California for the next big oil spill.

THE MOVEMENT



Our Rivers Must Run

Australia's Waterkeepers Unite
to Fight Water Diversions

By Stacey Bloomfield

South Australia's Coorong wetlands contain the largest permanent pelican breeding colony in Australia—a fact well known to readers of *Storm Boy*, Colin Thiele's classic children's book about a boy who raises an orphaned pelican. But the number of pelicans has declined by 80 percent over the past 40 years, because the Coorong is drying up. Two-thirds is considered ecologically dead; the remaining third has been kept alive only by dredging sand from the River Murray to keep its dwindling stream of fresh water flowing into Lakes Alexandrina and Albert and the Coorong's northern lagoon. Meanwhile, the lakes themselves are shrinking, exposing acid-sulfate soils that pose serious risks to human and animal health.

The Coorong, Lake Alexandrina and Lake Albert (the Lower Lakes) were recognized as a wetland of international significance under the Ramsar Convention, an international treaty requiring conservation and wise use of wetlands. Australia has further committed itself to the protection of the Coorong and Lower Lakes through its own piece of federal legislation, the Environment Protection and Biodiversity Conservation (EPBC) Act. Yet the government has failed to act while successive years of over-allocation, now exacerbated by the worst drought on record, have led to this significant degradation. Unfortunately, over-regulation and excessive diversion of river waters for agricultural and other purposes are all too common in Australia. The demand for more water for the environment is the common cause of Australian Waterkeepers.

The number of pelicans in South Australia's Coorong wetlands has declined by 80 percent over the past 40 years.

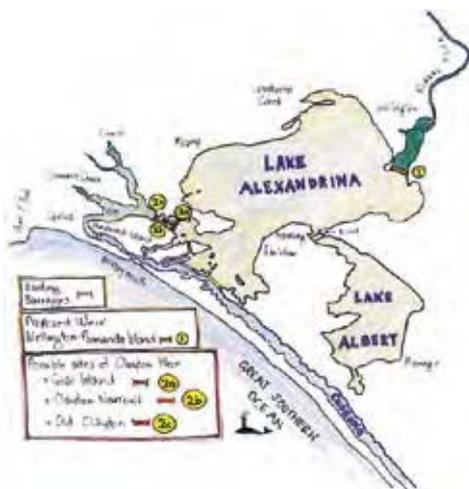
Paul Davis, the Coorong, Lakes and Murray Waterkeeper, lives on the shore of Lake Alexandrina and has seen the critical decline in water quality and its impact on the number and diversity of species over the past 10 years, with the problems rapidly accelerating in the past five years. Davis observes that the dramatic rise in salinity levels has had a devastating effect on the turtles that live in the freshwater lakes. "In the stretch of the river (Murray) between Clayton and Goolwa, salinity got so high marine tube worms are smothering the life out of turtles," he says. "Ten thousand have already died."

So it was fitting that the Australian Waterkeepers gathered in Goolwa, South Australia, in October for their fourth annual conference. More than 40 Waterkeepers and committee and family members came from all over Australia for training, inspiration and mutual support—and to help one another amplify the call for the Australian government to honor its obligations and redress the serious problem of over-allocation in the Murray-Darling Basin.

Waterkeepers took a cruise through the Coorong National Park and walked along the

Waterkeepers from around Australia gather for their annual conference in Goolwa, South Australia in late October. Guest of honor Bruce Reznik, the San Diego Coastkeeper, is third from right.





The Lake Alexandrina shoreline is receding due to the now-minuscule flows down the River Murray. The local Coorong, Lakes and Murray Waterkeeper program is a leading advocate in the struggle to return some life-giving flows to these lower reaches of Australia's major river system.

sand to see where the River Murray, Australia's longest river, reaches the sea. The cruise was a delight for the senses—tasting the salt air, feeling the sand between one's toes and touching the cool water—but the impact of over-allocation was self-evident. "Where was the birdlife that the Coorong is renowned for?" asked Alpine Riverkeeper Acacia Rose, who has worked to defend the River Murray at its source 1,600 miles away in the mountains of New South Wales. "The vastly diminished birdlife is a sad indictment of human impacts on natural systems, and it highlights the importance of the local Waterkeeper programs and their friends acting to rescue the [river] system."

The three-day conference gave Waterkeepers the opportunity to burnish their skills in key areas such as video making, fundraising, campaign planning and legal procedures. It provided a forum for us to have our voices heard by legislators—Independent federal Senator Nick Xenophon, South Australian Liberal MP Adrian Pederick and local Councillor Frank Tuckwell—who emphasized the importance of our community activism in building political support



for the rescue of the Coorong and Lower Lakes. An expert panel of three ecologists debated how best to balance competing environmental, social and economic needs in restoring health to a river system that supports a vast region of irrigated agriculture as well as critical habitat for threatened species. The strength of the international Waterkeeper movement was also on show: In an insightful and inspiring plenary address, San Diego Coastkeeper Bruce Reznik described how a well-resourced and funded organization can build community support, mobilize volunteers and make protection of the waters a mainstream political priority.

The conference appeared to recharge the batteries of the Waterkeepers. Port Phillip Baykeeper Neil Blake, attending his first Waterkeeper conference, commented that he came away “feeling part of a larger movement. You get the sense of belonging to a wider group.”

The Waterkeepers will need one another’s support more than ever, as the fight for the Coorong and Lower Lakes stepped up a notch in December. The South Australian state government

announced that, as a crisis measure to combat the acidification of the lakes, it had requested the Federal Environment Minister to mandate the release of seawater past barriers at the mouth of the Murray into the Lower Lakes if their water levels fall a specified amount below sea level (1.5 meters for Lake Alexandrina, 0.5 meters for Lake Albert). The local Waterkeeper program strongly opposes this step and advocates instead the purchase of River Murray water upstream to raise the lakes’ level without destroying them as a critical freshwater habitat.

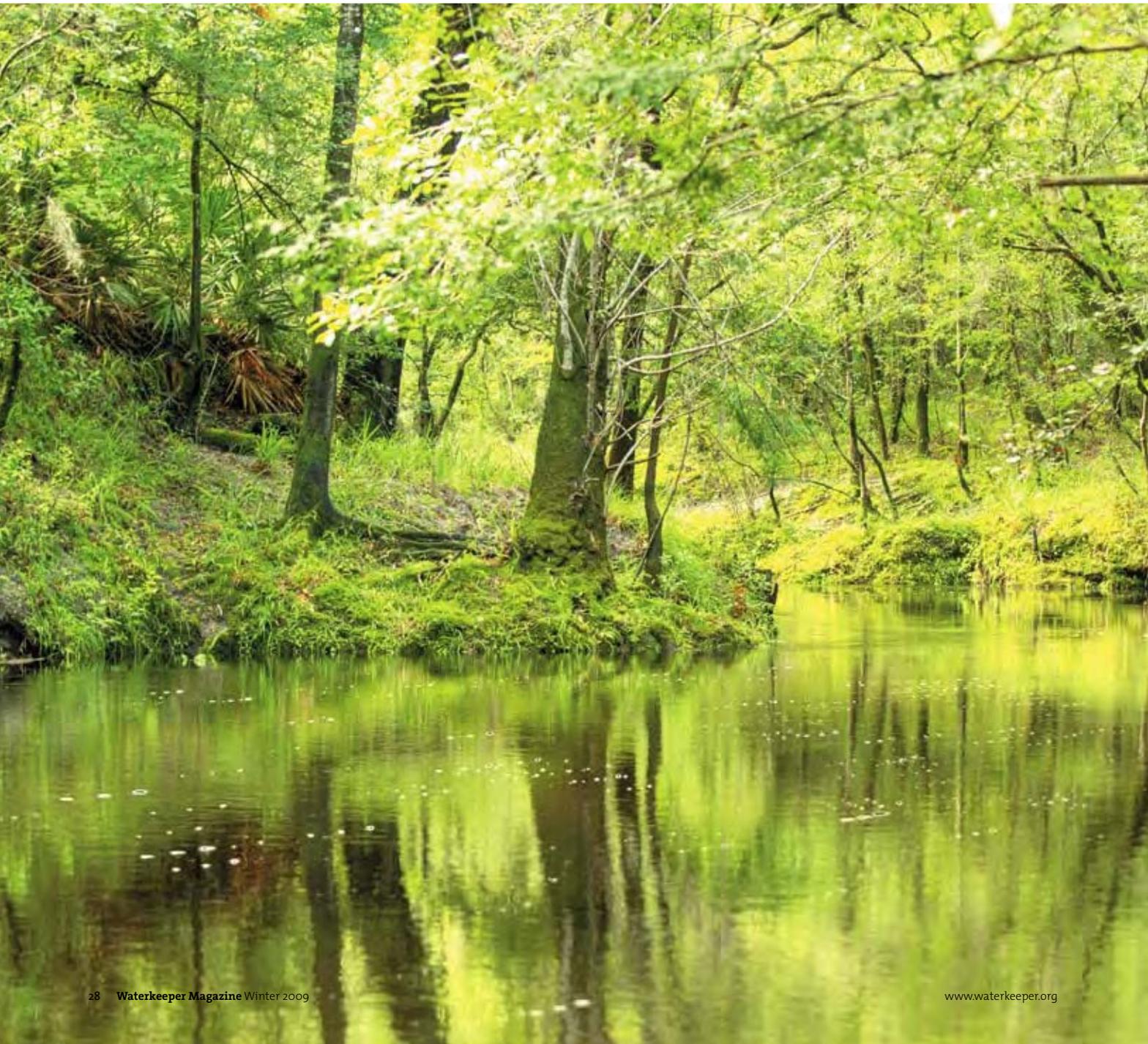
With renewed determination and spirit, the Coorong, Lakes and Murray Waterkeeper program will utilize the skills it gained at the conference and its strengthened connection to other Waterkeepers across Australia to build public support for the defeat of the government proposal. The fight to protect and restore these internationally significant wetlands and Australia’s other waterways continues. **W**

The Goolwa Barrage, built in 1940, diverted fresh water from the River Murray for large-scale sheep and cattle operations. The decreased river flow has had serious effects on the Coorong and disrupted the life cycles of migrating fish and water birds.

Uneasy Flows the St. Johns

Fighting unsustainable growth to save a river's life.

By Neil Armingeon, St. Johns Riverkeeper



A unique and endearing quality of Waterkeepers is their willingness to do whatever it takes to protect their waters. Standing up to defend our rivers, creeks, lakes, bays and coasts is part of our organizational DNA. Waterkeepers have taken on government bureaucracies, the coal industry, utilities, industrial farm operations, even Wal-Mart. Our readiness to use the law when necessary gives our members and supporters hope and our enemies anxiety and heartburn. It is a source of pride for each of us when our brothers and sisters make the commitment to seek justice through the legal system, whatever the venue.



Legal proceedings are not without challenges, of course. First and foremost are the costs, which can be substantial and are often unbudgeted. It can also be a struggle to keep our members involved and engaged through months, perhaps years, of proceedings. Some in our communities view legal actions as radical or as signs of an unwillingness to compromise. Yet, sooner or later many of us reach the time in our work that legal engagement is the only course of action, and we do not hesitate to pursue it.

So it was with my organization, the St. Johns Riverkeeper. Although we have filed several Federal Clean Water Act citizen suits in the past, we have gone “all in” on a recent water withdrawal case involving the St. Johns River and central Florida counties.

Water-hungry cities and municipalities in central Florida, looking to meet their insatiable thirsts, are seeking to remove growing and unsustainable amounts of water from our rivers. We were driven to take legal action to protect the St. Johns in response to a 2007 announcement by the St. Johns River Water Management District (SJRWMD), a state agency charged with the preservation and management of water resources in all or part of 18 counties in northeast and east central Florida. SJRWMD announced that Orlando and central Florida had out-stripped the Floridan Aquifer’s ability to provide a sustainable drinking water source beyond 2013, and directed Orlando and other communities to seek alternative water sources. Unfortunately, the St. Johns and its main tributary, the Ocklawaha, are the primary alternative sources. The proposed withdrawals currently total over 260 million gallons of water a day (MGD) and could ultimately exceed 400 MGD.

St. Johns Riverkeeper is concerned that the withdrawals from the St. Johns and the Ocklawaha Rivers will do tremendous harm to the health of both rivers. The lower St. Johns is an estuary and removing fresh water from the system will have catastrophic effects on the river’s ecology. Because of the threat to the river from the proposed withdrawals, American Rivers, a 65,000-member national advocacy organization, named the St. Johns one of the nation’s 10 most endangered rivers in spring 2008.

In February 2008, the SJRWMD staff proposed issuing the Yankee Lake Permit that would allow Seminole County to remove up to 11 MGD from the St. Johns—and this permit might prove to be just the thin end of the wedge. The county sought to build a system that would be able to withdraw more than 50 MGD.

Under Florida’s arcane permitting process, one must challenge a permit before the water management district’s governing board has decided to

approve it. Following our beliefs and our hearts, we made the decision to defend the St. Johns' health by filing for a hearing before a state administrative law judge.

Our challenge was to the SJRWMD staff's recommendation that a permit be issued to allow the withdrawal from the St. Johns River. But, as it turned out, our fight went well beyond the water management district's legal staff. Seminole County

American Rivers named the St. Johns one of the nation's 10 most endangered rivers.



intervened, and frankly, drove the case. To date, Seminole has spent over \$2.5 million to push the permit through, and its case included more than 30 listed witnesses and 1,100 exhibits!

One of the ironies of this type of administrative challenge is the fact that we citizens, through our taxes, are paying regulatory agencies such as the SJRWMD to litigate against us, and then we have to raise funds to pay for our attorneys, as well. When we filed our request for a hearing, we knew costs would be a real issue for our organization because we depend on the community to help us pay for our legal costs. This time our members and supporters came through, contributing in large numbers to our legal defense fund. Then, in early August, we received an incredible gift. Wayne and Delores Weaver, the owners of the Jacksonville Jaguars football team, joined our efforts to defend the river. The Weavers announced a generous challenge grant of up to \$150,000, contributing a \$1 match for every \$2 donated to the Riverkeeper's Awareness and Legal Fund. We are close to independently raising \$300,000 so we can obtain the full match so generously offered by the Weavers.

Our hearing began October 1, and lasted almost three weeks. St. Johns Riverkeeper had two excellent attorneys, our counsel, Michael Howle, and local attorney Ken Wright. I spent all three weeks with our lawyers, and was impressed by their dedication and commitment to our cause. They went toe to toe with as many as seven attorneys and numerous paralegals on the other side, and in my judgment often got the better of them. We exposed how little thought the SJRWMD staff put into their Yankee Lake permit recommendation. One of the most remarkable pieces of testimony came from the SJRWMD staff person who drafted the Yankee Lake withdrawal permit. He testified that he did the cumulative-impact analysis for this permit in his head. And during the course of the hearing, the SJRWMD finally admitted something Riverkeeper had been saying for 18 months: removing water from the river will increase the potential for algae blooms and increase the length of time blooms exist in the river. We believe our case proved that the withdrawals would cause harm to the St. Johns and would negatively impact our members' use and enjoyment of the river, and that Seminole County could meet its needs without removing water from the St. Johns.

Unfortunately, on January 12 Administrative Judge J. Lawrence Johnston issued an order recommending that the St. Johns River Water Management District approve a permit for Seminole County to withdraw 5.5 million gallons from the river.

We are disappointed, of course, but the judge's ruling is not binding; it is only a recommen-



Removing more fresh water from the St. Johns could have catastrophic effects on its estuary.

dation to the management district's board, which will make its decision at its meeting in March. Riverkeeper and its allies will turn out in force at that meeting. We've made a commitment to the community and to the river, and we're going to fight until we prevail. There is no other choice.

I've been asked what we have gained by this struggle. (It is a question I often asked myself while sitting in a small windowless hearing room for almost three weeks.) Despite the hearing's outcome, we've already made progress on this issue. Our voices and actions forced the water management district to conduct the type of research that should have been completed before any permit to withdraw water from the river was considered. Because of our opposition, the SJRWMD convened a panel of experts to objectively review the potential impacts from withdrawing hundreds of millions of gallons of fresh water each day from the St. Johns and Ocklawaha Rivers. This panel, which includes some world-class scientists, will review and, in some cases, collect data, and the results of this reanalysis will be further reviewed by a panel convened by the National Academy of Sciences. Had St. Johns Riverkeeper not challenged the Yankee Lake Permit, no additional science would have been conducted by the SJRWMD and the permit would be a *fait accompli*. We will continue to monitor and question the findings of the scientific reanalysis.

None of this would have happened without the support of other groups and countless citizens who have opposed the SJRWMD's misguided proposal to remove fresh water from our rivers to continue unsustainable growth in Orlando and Central Florida. The withdrawal issue has cemented relationships among citizens up and down the St. Johns River. We now have strong ties to other citizen groups and countless men and women in central Florida who oppose water withdrawals and want to see real, meaningful water conservation programs in their counties and cities. Our withdrawal battle has begun a statewide debate on the future of water use in Florida. Many other communities and water utilities are watching our case.

I once heard Upper Watauga Riverkeeper Donna Lisenby say at a conference that no one can speak on behalf of a body of water better than a Waterkeeper. We share an intimate knowledge of our water body, and we are committed to do whatever it takes to protect it. I thought of Lisenby's words on the day I testified.

In my testimony, I described the St. Johns River as a beautiful, unique and important body of water that means so much to all of us. It is a treasure, not a source of cheap water. My hope is that the management district board will remember these truths about the St. Johns when it makes its ruling. **W**



Lake Huron empties into the St. Clair River just above the Blue Water Bridge that joins Sarnia to Port Huron.

Down the Drain

Georgian Baykeeper battles to save the Middle Lakes.

By Mary Muter,
Georgian Baykeeper

Lake Huron is slowly but surely going down the drain. Anyone who visits Georgian Bay, the giant basin extending northeast from the lake, can see this. Over the past few years, as much as 90 percent of the wetlands that border the thousands of granite islands on the bay's north and east coasts have dried up. If they remain dry long enough to turn into grassy meadows, the damage will become practically irreversible. Even if the lakes' water levels were restored to their long-term average—and that's a big IF—it would take a decade for wetland plants to re-establish themselves to the extent that aquatic life could return. It's an open question whether northern pike, musky and bass will ever again spawn along these shores.

The International Joint Commission (IJC), established in 1909 by the U.S. and Canada to oversee the waters between the two countries, long ago

set a minimum standard for Lakes Michigan and Huron: when their surface subsides to 176 meters above sea level, it's a low-water crisis. They are in crisis conditions now, and have been since 2000. That the lakes are in trouble is beyond dispute. What has been less clear is the cause of the problem, and how to cure it.

Now, thanks largely to the hard work and persistence of the Georgian Baykeeper program, consensus has been established that there is excessive outflow from Huron into the St. Clair River; and a draft report issued by the IJC for public comment in January may finally spur remedial measures to save the lakes.

LAKES MICHIGAN AND Huron and Georgian Bay all form one hydrological unit. These middle lakes are actually a single body of water, which drains out the

southeastern end of Huron into the St. Clair River. The St. Clair passes through Lake St. Clair, and thereafter is called the Detroit River, which flows through the Motor City into Lake Erie.

As Georgian Baykeeper I first traveled to the St. Clair River in 2001 just to have a look at this mighty river that drains a major part of the Great Lakes. As I stood near the Blue Water Bridge joining Sarnia and Port Huron just below the head of the river, I could see that small recreational boats traveling upstream were having trouble making headway against a strong current running out of the lake. When I walked to the river's edge, I could clearly see the sandy bottom; the water was only 1- or 2-ft. deep. But only 100 feet from shore, a huge ocean-going freighter was passing by! Clearly, to achieve the more than 30-ft. depth necessary for such a ship so close to shore, a great deal of dredging must have been done to alter the river from its natural state.

I walked upstream to where the river flows out of the lake and saw 10-ft. high, 100-ft. long steel walls jutting out from the shores into the lake. It was easy to see that sand was being trapped against them. (I later learned that these walls, called groins or bed-load traps, had been built to protect the shoreline from high waters, but had had the unintended consequence of holding back 95 percent of the sand that would otherwise flow out of the lake and replenish the river bed as it eroded, keeping the river relatively shallow and slow. In the absence of this replenishing sand, erosion has dug the channel to a depth of 60 feet, twice as deep as is necessary for ships to pass.)

Then I walked downstream for about one mile and noticed that continuous steel walls lined the river's edge, hardening the shoreline and leaving no natural banks. I was wondering what had happened to all the frogs and small fish that need shallow, protected waters when I noticed that the current had slowed. Looking back upstream, I could see that the surface of the water visibly inclined upward to the lake. Clearly, much of the 5-ft. drop in elevation from Lake Huron down to Lake Erie took place right here, where the St. Clair begins. I realized the section of the river near the bridge probably acted as the control point or valve that determined the rate of outflow from the middle lakes.

I went back to Georgian Bay and began phoning and visiting government offices, talking with experts and researching the historical record.

THE ST. CLAIR River is located in a highly industrial area with a long history of navigation dredging, sand-and-gravel mining and shoreline hardening. All of those activities have resulted in the carving out of a deeper channel—much deeper than



is necessary for navigation—that allows more and more water to drain out of the middle lakes.

When the United States and Canadian governments created the International Joint Commission to oversee the boundary waters, they were aware that activities such as sand and gravel mining and dredging were having an impact on levels and flows in the channels connecting the Great Lakes.

A former U.S. Co-Chair of the IJC, Dennis Schornack, visited Georgian Bay with Georgian Baykeeper's consulting biologist, Karl Schiefer, and me in 2002. Schornack told us that IJC had issued its first order requiring outflow-control measures such as weirs to be installed in the St. Clair River back in 1917.

I found in the Toronto Reference Library a book written in 1922 that contained a detailed analysis of the St. Clair River. It indicated clearly that the IJC even then was well aware of the impact of early changes to the river. The book even contained to-scale drawings of locks—never installed—designed to control the flow of the river.

Then, in answer to my inquiry, the local officials from the Ministry of Natural Resources admitted that they had never done any environmental impact assessment of the steel walls constructed in the 1980s and 1990s, neither those that harden the riverbanks nor the ones that extend into the lake, preventing the natural movement of sand into the river.

I managed to get a friendly source in the U.S. Army Corps of Engineers to send me a recent profile of the riverbed near the Blue Water Bridge, and a 1954 profile, as well. I could see a very significant deepening of the river and wondered what that did to the rate of outflow. I reported all this to the Georgian Baykeeper Board, and then we found a couple of engineers who knew something about hydraulics—how water moves. They set to work comparing current navigation charts with charts from years past and were able to conclude that the

The Great Lakes contain 20 percent of the world's fresh water supply. Only one percent of the lakes' water is a renewable resource. The rest was left when the last ice age retreated and cannot be replaced by annual precipitation.



Wetlands biologist Dr. Pat Chow-Fraser is about to release a juvenile Musky caught during fish assessment work. Loss of wetland habitat due to sustained low water levels is likely affecting the spawning ability of Musky and many other species such as Northern Pike.

water-conveyance capacity of the St. Clair River had increased as a result of deeper channels.

Through further historical research, I found that the IJC had considered mitigation designs for the St. Clair River many times, in the 1920s, 1930s and 1970s. Earlier concepts were revised and improved, and mitigation structures were designed, approved and funded. The Corps of Engineers even acknowledged that the foundations for submerged weirs had actually been built, but the project was never completed.

As recently as 1993, the IJC's Great Lakes Water Levels Reference Study had recommended that interim measures be put in place for use when water levels approached crisis low conditions. Since, by the IJC's own standards, crisis conditions have prevailed for the past eight years, we decided it was time to talk to the Canadian authorities that are responsible for tracking levels and flows in the Great Lakes. To our dismay they gave us a pat on the back and said we did not need to worry ourselves; they were looking after this.

But the more we looked into this crisis of sustained low water levels, the more concerned we

became. Although we are a relatively small non-profit, the Georgian Baykeeper Foundation was able to raise \$250,000—mostly from Huron shoreline property owners with whom we discussed the threats to the lake—to pay for an engineering study. We retained the internationally respected coastal consulting engineering firm W.F. Baird & Associates. The 2004 Baird Report on the conveyance capacity of the St. Clair River confirmed our suspicions and then some. The report concluded that “shoreline alterations, aggregate mining and navigation dredging in the St. Clair River has resulted in ongoing erosion of the riverbed and increased conveyance capacity in the river.” It also confirmed that there had been a natural sand and gravel bar at the outflow of Lake Huron, which acted as a natural weir to restrict the outflow, but the U.S. Army Corps of Engineers cut through it for a navigation channel in the 1930s and again in the 1960s. As a result of all this tampering with the St. Clair, there has been a further lowering of Lakes Michigan and Huron, even beyond that caused by the last dredging in 1962. The lakes' surfaces have subsided by 33 cm in addition to the 25 cm lost from the 1962



Above: A high-quality, productive Georgian Bay wetland in 1998.

Below: Same wetland in 2001. Due to the sustained low water levels in Georgian Bay this and other wetlands have now converted to grass meadows. Fish that cannot find suitable spawning habitat simply do not spawn. These areas were previously home to many snakes and turtles listed as Threatened or Species at Risk. But they cannot survive on the adjacent steep granite shorelines.



Lake Huron is losing in excess of six billion gallons of water every day down the river and out to the Atlantic Ocean.

dredging. That is a very significant amount of water lost from the huge surface area of the lakes.

We wondered how the two federal governments had missed this environmental time bomb. But our report showed that no government agency had placed even a simple flow meter in the critical section of the river at the Blue Water Bridge, where the flow is the fastest and the river deepest.

We took W.F. Baird's lead engineer with us and presented the firm's findings to the International Joint Commissioners in October 2004. They told us we were doing work our governments should have been doing and that it would change forever how both governments monitor the Great Lakes. Time will tell.

In 2006 the Georgian Baykeeper used the U.S. Freedom of Information Act to obtain records of the 2005 depths of the St. Clair from the U.S. Army Corps of Engineers, and then the Georgian Bay Foundation retained Baird & Associates to compare those depths to those of 2002 (which Baird had on hand) and calculate the difference in water flow. The Baird experts concluded that "There was an overall increase in depths (erosion) between 2002 and 2005, with a total net volume change of approximately 31,700 cubic meters. This has happened at the critical part of the river where the flow is the fastest and the river the deepest." Ships need a depth of only 30 feet and the channel is now more than 67 feet deep in critical sections.

Our consulting engineers confirmed that the steel walls jutting out into the lake have contributed to this erosion by holding back replenishing sand. And the hardened shoreline contributes as well: Where there are sharp turns in the river, the river would naturally round off sharp turns, growing wider, shallower and slower; but the hardened

steel walls force the river to gouge more deeply into the bottom instead, increasing the speed and volume of flow.

As a result of Georgian Baykeeper's efforts, the IJC launched a study in 2006, which included a review of our findings regarding the St. Clair River. The Plan of Study called for a full three-dimensional modeling of the river and, if that revealed excessive flow out of the lake, it recommended that mitigation measures be designed. This study is now under way with \$17 million of funding from the U.S. and Canadian governments.

Unfortunately, the IJC Study Board has yet to follow the Plan of Study, the Directive to the Study, or the advice of the Experts Panel, all of which clearly indicate the need for three-dimensional modeling in order to understand complex flows in a large river with sharp turns and changes in sand and sediment supply. The Study Board only recently, in the fall of 2008, managed to place a \$30,000 flow meter into the river near the bridge. Based on data obtained from that meter, they now realize that all their outflow calculations have been incorrect for years.

WILL WE DO the right thing for the Great Lakes? We know that climate change will affect Lakes Michigan and Huron and Georgian Bay because the loss of their traditional ice cover will lead to year-round evaporation. The middle lakes are at a further disadvantage: IJC Control Boards set the monthly discharge from Lakes Superior, Erie and Ontario, but there are no control gates managing the flow from Lakes Michigan and Huron; they desperately need the installation of some mitigation measures to hold back water. If the outflow from Lakes Michigan and Huron could be moderated, then the control gates for Lake Superior, which have been opened to add water to the dwindling middle lakes, could be used for their intended purpose—to hold back water for Superior itself when the levels are low there, as they were in 2007.

The IJC's International Upper Great Lakes Study held public meetings last summer in Georgian Bay communities. The panel acknowledged that they have found a five percent increase in conveyance capacity in the St. Clair River and that, as a result, Lake Huron is losing in excess of six billion gallons of water every day down the river and out to the Atlantic Ocean. Georgian Baykeeper hopes the IJC, spurred on by public comments in response to its January draft report, will finally recommend the installation of flexible measures in the river to stop this enormous leakage, so that our wetlands can be flooded again and aquatic life can be re-established, before it is too late. **W**

Georgian Baykeeper Mary Muter beside one of the bay's threatened wetlands.





PREPARATION MEETS OPPORTUNITY

PREPARATION: For over a decade, AbTech Industries has committed itself to GOING GREEN, pioneering cutting-edge clean water solutions to meet community and industry needs. At the heart of our product innovation is Smart Sponge® – our unique polymer technology chemically selective to hydrocarbons – engineered to target the multiple avenues of stormwater runoff, the leading cause of water pollution. Rainfall flushes oil, grease, trash, bacteria and other pollutants from parking lots, rooftops and roads – untreated – into rivers, lakes and oceans. Smart Sponge® captures pollutants before they can “run off.”

OPPORTUNITY: Given the current economic crisis, the incoming Administration plans to enact an Economic Stimulus Package, calling upon state and local government to propose “shovel-ready” public works projects – some of which ought to address the many serious clean water infrastructure issues. If you’ve got a “shovel-ready” clean water project, AbTech Industries has got the ground-breaking technology to get it done – today – to help the economy and our waterways run clean – tomorrow.

For more information on how you and your city can GO GREEN with AbTech’s Smart Sponge® Technology, contact us at 1.800.545.8999 or visit us at www.abtechindustries.com.



Georgia On My Mind

Government may be asleep at the switch, but Georgia's Waterkeepers are hell bent on saving their precious waters.

By Rick Dove

If you've ever watched the sun rise over Georgia's coastal marshes, stared in awe at the majestic cypress and tupelo trees that grace its rivers and streams, photographed its abundant wildlife or enjoyed the challenges of its fishing, you know the meaning of "Georgia on My Mind."

From the mountains to the coast, Georgia's waters are simply spectacular. Their present day beauty makes you pause to think about the past when all of Georgia's rivers flowed free, wetlands and forests abounded and fish were plentiful and safe to eat.

Today, Georgia is the ninth most populous and fourth fastest-growing state in the U.S. Atlanta, Savannah and other cities are sprawling over the landscape. The strain this growth has placed on Georgia's natural environment, especially its public trust waters, is enormous. The demands to promote economic development at the expense of the environment grow stronger by the day.

Many of Georgia's rivers now run thick with mud, pathogens, metals, nutrients, mercury, pharmaceuticals and other harmful substances. And some cities, including Atlanta, are literally drinking the rivers dry. Making matters worse is the fact that Georgia has so little water quality data that it

cannot accurately evaluate the condition of most of its rivers and streams. Of the more than 70,000 miles of waterways, only 11,000 have been assessed and fewer than 17 percent are being monitored. While no one knows exactly how bad the situation is, based on what is known alarms should be buzzing at the highest levels of the federal and state governments. Unfortunately, government officials are asleep at the switch—that's the plain and painful truth. What is happening to Georgia's waters is more than a shame—it's a disgrace. Who says so? The Georgia Waterkeepers—and they are hell bent on fixing the problem.

There are eight Waterkeeper programs working to restore and protect Georgia's rivers and coastal waters. The first was established on the Chattahoochee in 1994.

The Chattahoochee and Its Riverkeeper

Sally Bethea is the founding director of Upper Chattahoochee Riverkeeper, a 4,600 member nonprofit environmental advocacy organization. A wiry woman of boundless energy, Bethea has fought for the "Hooch" with such skill and single-minded passion that her take-no-prisoners approach has

earned her the nickname “the General” among her fellow Georgia Waterkeepers.

The Chattahoochee—its name is a Native American Creek word that means “river of painted rocks”—starts out as little more than a trickle at a spring on Coon Dan Ridge in southeastern Union County. From there it travels 436 miles to the Florida border and joins up with the Flint River at Lake Seminole, at which point it becomes the Apalachicola River, flowing more than 100 miles through Florida to the Gulf of Mexico.

In its upper reaches, the Chattahoochee can barely provide enough water to supply the drinking and industrial needs of the Atlanta metropolitan area. Below the city’s intake, more than 250 million gallons of sewage flow into the Chattahoochee every day. Adding to that problem are discharges of polluted storm water every time it rains.

As the river journeys downstream, more than 14 reservoirs dam its flow and form a number of lakes. Two of them, Lanier and West Point, cover more than 64,000 acres and have more than 1,225 miles of shoreline. Dams are one impediment to the Chattahoochee’s flow; sediment pollution is another. All along its course, unsustainable development practices result in harmful sediments being discharged into the river, causing it to become shallow, promoting flooding and destroying fish habitat.

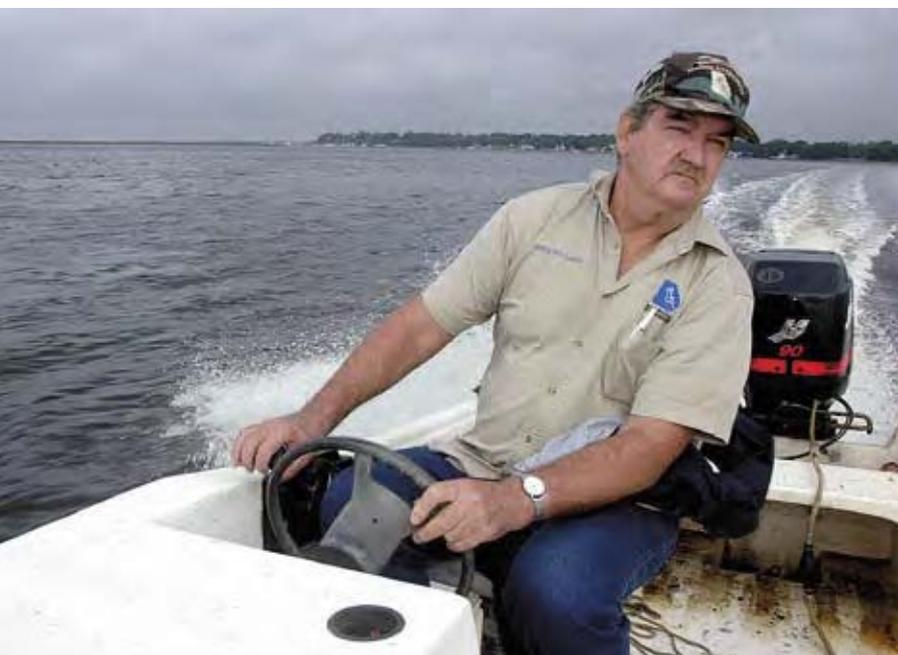
Problems of this magnitude often result in the death of a river. But in the case of the Chattahoochee, Bethea and her organization are not only fighting back—they’re winning. A lawsuit filed by Upper Chatahoochee Riverkeeper against the City of Atlanta in 1995 for chronic sewer overflows resulted in a multi-billion dollar commitment to correct the problems. A recently completed \$757 million project will ensure that nearly four billion gallons of polluted stormwater and sewage that previously flowed into neighborhood streams will be treated before entering the river. This landmark suit has also secured the permanent protection of almost 2,000 acres of land along streams and a massive cleanup of trash from 37 miles of tributaries. Other recent victories will help clean up storm water at thousands of industrial and construction sites throughout Georgia. (A list of Upper Chattahoochee Riverkeeper’s accomplishments can be found at: www.ucriverkeeper.org/aboutus3g.htm)

“The Chattahoochee of the future will be respected as an essential lifeline for millions of Americans,” Bethea says, “not abused as a place to dispose of unwanted wastes, as it has been for close to a century.” She’s confident that her hopes for the river are more than just a dream because she has founded them on an unflagging commitment to scientifically-based and cooperative decision-making.

Georgia is the fourth fastest-growing state in the U.S. The strain this growth has placed on Georgia’s natural environment, especially its public trust waters, is enormous.



Sally Bethea and her organization are winning their long fight to protect the CHATTAHOOCHEE River.



James Holland uses every weapon in the Waterkeeper arsenal, from boats and planes to a good pair of snake-proof boots, to protect the **ALTAMAHA RIVER.**

James Holland and the Altamaha River

If you asked James Holland, the Altamaha Riverkeeper, “What is God’s greatest gift of nature?” he would instantly say, “The Altamaha.”

For 140 miles the Altamaha winds its way through south central Georgia. No dams or other obstacles obstruct its flow. In many places it remains a virgin river, unscarred by the mischief of man. Along its journey to the Atlantic Ocean, more than 100 species of rare plants and animals are found, including the Georgia Spiny Mussel, American Oyster Catcher, Piping Plover, Gopher Turtle and Red-Cockaded Woodpecker. Along its shores are old stands of longleaf pine and cypress trees that were growing more than 1,000 years ago.

In his youth, Holland camped, hunted and fished for red breast, bream and catfish on the Ocmulgee, a major tributary of the Altamaha. It was the beginning of a love affair that continues today.

A former Marine, Holland had intended to make the Corps his career, but the lore of a boyhood river kept pulling at him, and he returned to the Altamaha to become a commercial fisherman. For 20 years, he crabbed the waters of his river, but his fishing fell on hard times in the early 1990s. The number of crabs was declining and those that he caught just didn’t look right. As he looked for answers, Holland began to understand the problem. Many of Altamaha’s wetlands had been ditched and drained to increase the production of plantation pine for the growing pulpwood industry in Georgia or to make way for development. This loss of wetlands was destroying nature’s ability to properly filter runoff and store necessary amounts of freshwater.

In 1999, armed with this knowledge, Holland and a very small group of supporters formed the Altamaha Riverkeeper, Inc., and he was quickly appointed as the Altamaha Riverkeeper. Today, Holland is undoubtedly one of the toughest Riverkeepers in the Waterkeeper movement. Hunting down polluters, he uses every weapon in the Waterkeeper arsenal, from boats and planes to a good pair of snake-proof boots. There is nothing unusual about finding Holland, day or night, perched high in a wetland tree overlooking a construction site with binoculars.

Holland is determined to see the day when timber harvesting, pollution, unsustainable development and destruction of wetlands are stopped. “My vision for the Altamaha watershed is simple,” he says. “It is to have ample, flowing, high-quality water sufficient to sustain people and wildlife.”

Holland is an accomplished photographer. His amazing pictures of the Altamaha can be viewed at www.jameshollandphotography.com. The Altamaha Riverkeeper website can be found at www.altamahariverkeeper.org.

Georgia’s Altamaha Coastkeeper

While the entire Altamaha Basin is a treasure, its greatest beauty may well be at the end of the river’s journey, at the Altamaha coast, where salt and fresh waters mix, creating the perfect habitat for ocean fish to spawn. It is a place of abundant salt marshes where fisher birds hunt with slow, captivating beauty. It’s no wonder that Wendy Vazques Galan jumped at the opportunity to be its Coastkeeper.

Vazques Galan sees her assignment as Altamaha Coastkeeper as a job she trained for all of her life. She was brought up fishing, shrimping and crabbing in the rivers and creeks of St. Simons and Sea Island with her father, Capt. Frank Mead, a charter boat guide for more than 30 years; she even caught the state record tarpon.

She has her work cut out for her. Pollution from upstream, coupled with the negative effects of local activities, is slowly killing coastal marshes and the wildlife that depend on them. The coast of Georgia is one of the fastest-growing areas in the state, but state officials have no plan to protect this fragile shore. A significant problem for the Altamaha coast is the pollution from area development sites, and the state has failed to control storm water and the contaminants it delivers.

Protecting the Altamaha coast will, Vazquez Galan knows, test the limits of her passion and commitment. But as she sees it, there’s too much at stake for her to fail.

She is fighting for the coast for everyone, but especially for her two sons, Wyatt, 7, and Jonah, born Aug. 24, 2008. She wants them to inherit a watershed with healthy water and bountiful fish

and coastal marshes unobstructed and unimpaired by condos, long docks and unsustainable development. “I want my children to grow up and experience fishing, shrimping, and crabbing in coastal Georgia in the same way, or better, than I did as a child,” she says.

Through educational programs and outreach activities, Altamaha Riverkeeper and Altamaha Coastkeeper have built an impressive coalition of citizens to fight for the watershed. Their exhaustive patrolling and meticulous documentation have provided the foundation for successful legal and political action to protect and restore the watershed. A list of the Altamaha Riverkeeper and Altamaha Coastkeeper’s accomplishments can be found at www.altamahariverkeeper.org.

Riverkeeping on the Satilla

Ask locals about the Satilla River, particularly the fishing, and some reply, “Satilla? Never heard of it.” They view the river as a well-kept secret and want to keep it that way. This poses a problem for Gordon Rogers, the Satilla Riverkeeper. He knows that to protect his river he must keep it in the public eye.

An articulate, hardnosed advocate for protecting the Satilla, Rogers’ array of skills—fisheries biologist, avid sportsman and devoted family man—seem particularly well suited to life as a Riverkeeper.

The Satilla begins in the swamp waters of south-

central Georgia and drains nearly 4,000 square miles of land as it slowly snakes 250 miles to the Saint Andrew Sound and Atlantic Ocean. Free of dams and massive development, the river is true black water, graced with pure white sandbars that blindingly reflect the sun. Its bottomlands hold formidable stands of ancient tupelo and cypress abundant with wildlife. Many say it is a river lost in time, too beautiful to be captured in pictures. But it is also, Rogers says, a river under assault.

Wetlands are disappearing at an alarming rate as developers legally and illegally drain and fill them to build roads, homes and strip malls. Without the flow-regulation and filtration provided by these wetlands, the river flows too rapidly, falling to below normal levels for extended periods of time. Excess nutrients and sediments are freely discharged to the river. Altered flows wreck fish reproduction and depress crab and shrimp production in the tidal areas. Sediments smother aquatic life on the river’s bottom and nutrients force vegetation to grow out of balance with nature.

The river faces many other problems including the logging of cypress and other old growth trees, and the leaching of toxic compounds from old landfills. The state has not implemented a plan to clean up these old landfills. Worse yet, it is issuing permits for new ones.

There are sections of the Satilla with good water

Along with providing beauty and biodiversity, Cabaretta Inlet’s marshes provide a critical buffer from ocean storms. As the **ALTAMAHA** Coastkeeper, Wendy Vazquez Galan is determined to protect these marshes from development pressures.





One of the problems the SATILLA RIVER and Gordon Rogers, the Satilla Riverkeeper, face is the logging of cypress and other old-growth trees.

quality, but testing is woefully inadequate, and several of its tributaries, as well as a critical section of main stem, do not meet the minimum criteria for their use (primarily fishing). Restoring the Satilla will require a much better information base, and the cooperation of landowners and local jurisdictions to return its flow to healthy levels. Additionally, mercury contamination of the Satilla's aquatic life from airborne, coal-originated combustion occurs throughout the system. Only state and federal actions can address that problem.

Fortunately, the Satilla is a secret no more. The Satilla Riverkeeper has developed a strong grassroots constituency and such solid relationships with elected officials that they have become leading voices for reform and conservation. Through litigation and enforcement actions, the Riverkeeper has won important victories, such as the permanent protection of more than 20 miles of riverfront. (For a full list of achievements, go to www.satillariverkeeper.org.)

Standing Up for the Coosa

The Coosa River begins in Georgia's Appalachian foothills. A river of immense diversity, it is formed by the confluence of the Oostanaula and Etowah Rivers at Rome, Ga., and travels 600 miles to the Mobile River and Mobile Bay at the Gulf of Mexico.

A globally significant biological treasure, the Upper Coosa River Basin is the sole habitat of more than 30 species of fish, mussels, snails and crayfish that can be found nowhere else in the world. Unfortunately, due to human activities, 15 species of mussel and eight species of snail have been lost from the Upper Coosa Basin. Of the mussels and snails that remain, seven are listed by the federal government as threatened or endangered.

The Coosa has long served as an economic engine powering development along its course. (In the early 20th century, commercial riverboats plied its waters from Rome 200 miles south.) Today, the river is plagued by numerous pollution problems including sedimentation, point-source discharges, stormwater runoff and air deposition of toxics. And the greatest threats lie ahead, as population growth in the region is expected to more than double over the next 25 years.

To defend the Coosa, a diverse group of people fighting local battles over everything from landfills to chip mills formed the Coosa River Basin Initiative (CRBI) in 1991. Its leader, Jerry Brown, developed the vision of a regional organization that would fight environmental abuses across the Upper Coosa River Basin. The CRBI applied for and received its Riverkeeper license from the Waterkeeper Alliance in 2005. Since then, Joe Cook has served as the Upper Coosa Riverkeeper.



A nature/landscape photographer and writer whose work has been published in numerous national and regional magazines and is featured in three books, Cook has studied and reported extensively on water resource issues in Georgia since 1994.

Cook advocates for the Coosa waters that stretch from southeastern Tennessee and north central Georgia to Weiss Dam in Northeast Alabama. The Upper Coosa Riverkeeper's enforcement jurisdiction covers 5,000 square miles of watershed.

Methodical and focused, he has attacked and eliminated threat after threat to the Coosa basin, stopping the pollution of Silver Creek by a Styrofoam manufacturing facility, ending the dumping of construction waste along the banks of the Etowah River, leading volunteers in the removal

Joe Cook defends the **UPPER COOSA RIVER BASIN**, the sole habitat of more than 30 species of fish, mussels, snails and crayfish found nowhere else in the world.



“Draft beer or toxic brew—looks can be deceiving,” says Frank Carl, the Savannah Riverkeeper. The **SAVANNAH** is heavily contaminated with toxins, such as mercury, and many of the fish are listed as unsafe to eat. But the river is still a source of drinking water for many.

of 20,000 lbs. of trash from area streams and rivers. (A full list of accomplishments can be found at www.coosa.org.)

“There is no more important place than the Upper Coosa to make a stand,” Cook says. “There is too much at stake for us and the other critters that call this place home.”

The Mighty Savannah

Beginning along the Blue Ridge Escarpment in southwestern North Carolina, near the point where North and South Carolina and Georgia meet, the Savannah River journeys almost 350 miles, draining a watershed of more than 10,500 sq. mi., mostly in South Carolina and Georgia, before flowing into the Atlantic at an area known as Tybee Roads. Along the way, glimpses of its once pristine beauty—and a tremendous variety of plants and wildlife—can be found in its upland forests, bottomland hardwoods and swamps, as well as its fresh and salt water marshes.

The Savannah was Georgia’s gateway to development; in the 18th century, it was the main route of inland transportation. Two riverside cities, Savan-

nah and Augusta, each served for a time as the state capital. No river in Georgia has suffered as many negative impacts from human activities. Today, it is an industrialized river whose flow, sediment load and flood plain have been altered by the construction of large dams, dredging, meander cuts and bank hardening.

To Georgia’s detriment, the Savannah is now heavily polluted by a mercury-cell chlor-alkali plant and three coal-fired power plants; toxic superfund sites containing mercury, PCBs and arsenic; a plant for the production of nuclear-weapons materials; poorly treated human and industrial waste, polluted storm water, contaminated agriculture runoff and unsustainable development practices. The consequences of all this pollution are severe. Fish contaminated with mercury are unfit to eat; low oxygen levels cause dead zones; and sediments impair habitat and increase the expense of using the river for drinking water.

The state and federal governments have failed to protect the Savannah, but Frank Carl has not. After a career as a medical researcher, Carl, who has a PhD in biochemistry, helped form the Sa-

vannah Riverkeeper in 2001 and has served as its Riverkeeper and executive director ever since. His dogged persistence serves him well in dealing with the myriad problems facing a river nominally overseen by the federal government, three states, 37 counties and hundreds of municipalities.

By water, air and ground, Frank and his team of dedicated staff and volunteers patrol the Savannah finding sources of pollution, and then work effectively to eliminate them. Through its political and legal efforts, Savannah Riverkeeper has secured the construction of a new sewage treatment plant for the city of Rincon, saved 37 acres of wetlands, prevented the giveaway of reservoir collar lands, and forced the Army Corps of engineers to protect in-stream ponds. (For a full list of achievements, see www.savannahriverkeeper.org.)

“The Savannah may be impaired right now, but as long as Savannah Riverkeeper exists we will doggedly work to protect and restore our beautiful river to as close to her once pristine condition as possible,” says Carl.

Ogeechee-Canoochee

White, sandy banks, black and tea-colored water, pure white sandbars, rippling surface waters dancing in sunlight; magnificent cypress, tupelo, sweet gum and oak; gators, bobcats, deer, raccoons, fish and birds—all are there along the Ogeechee and Canoochee Rivers.

The Ogeechee, one of Georgia’s last free-flowing rivers, begins at the southeastern edge of the Georgia Piedmont, and travels southeastward 245 miles, where, joined by its largest tributary, the Canoochee, it continues to the Atlantic. One section, from the town of Jewell to the Route 123 bridge, has an unforgiving five miles of challenging whitewater. But whitewater is not the only challenge. Getting lost in the river’s meandering maze of beautiful river swamps is another.

The Canoochee begins near Swainsboro and winds about 85 miles before joining up with the Ogeechee near the town of Richmond Hill. Most of the upper reaches of the Canoochee are nearly impossible to canoe due to snags of logs and shallow water. The lower portion of the Canoochee is much easier to visit—but it’s not for the faint of heart: Some say the river is host to the largest water snakes in Georgia.

The two rivers are blessed with abundant wetlands, critically important to filtering more than 5,500 sq. mi. of drainage. That’s the good news. The bad news is that more than 83 miles of the basin’s waters are listed as impaired—and more should be listed but are not, due to lack of monitoring by state officials. The many causes of this impairment include wetland degradation, sedimentation due to unsustainable development, 57 industrial and mu-

nicipal water treatment facilities pumping out poorly treated wastewater and coal-fired power plants discharging high levels of mercury into the air.

The Ogeechee-Canoochee Riverkeeper, with more than 1,000 members, closely monitors the rivers and has done extensive tests of the rivers’ fish for their mercury content. More than 85 percent of the largemouth bass in the Canoochee River had mercury levels twice what the U.S. Environmental Protection Agency lists as safe to eat. The redbreast didn’t fair much better; 40 percent had dangerous levels of mercury. *Every single fish caught in this effort had detectable levels of mercury.*

By raising awareness and aggressively responding to critical issues such as mercury pollution, Ogeechee-Canoochee Riverkeeper, led by Riverkeeper Chandra Brown, has become the rivers’ leading voice. Among other achievements, the group has reported more than 100 violations of state and federal laws to government agencies, resulting in more than \$100,000 in fines and numerous stop work orders. (For a full list of achievements see www.ogeecheecanoocheeriverkeeper.org.)

“At first, I was disheartened by the state of my homeland,” says Brown, who has roots in Statesboro and Savannah. “However, I quickly discovered, after becoming a Riverkeeper, that there were many, many more people who wanted to protect these areas. They just didn’t know how. That’s where Ogeechee-Canoochee Riverkeeper helps out. It’s not just about protecting the health of the environment; it’s about strengthening our communities, ensuring our involvement in government’s decisions, and ensuring that the voices of those speaking for the river are heard.” **W**

Ogeechee-Canoochee Riverkeeper Chandra Brown (right) and Watershed Specialist Dianna Wedincamp patrol the **OGEECHEE RIVER** for pollution. Mercury is found in an alarming number of the fish caught there.



Waterkeepers Around the World



Alabama
Black Warrior Riverkeeper
Cahaba Riverkeeper
Choctawhatchee Riverkeeper
Hurricane Creekkeeper
Mobile Baykeeper

Alaska
Cook Inletkeeper
Prince William Soundkeeper

Arizona
Black Mesa Waterkeeper

California
California Coastkeeper Alliance
Humboldt Baykeeper
Inland Empire Waterkeeper
Klamath Riverkeeper
Monterey Coastkeeper
Orange County Coastkeeper
Russian Riverkeeper
San Diego Coastkeeper
San Francisco Baykeeper
San Luis Obispo (SLO) Coastkeeper
Santa Barbara Channelkeeper
Santa Monica Baykeeper
Ventura Coastkeeper

Colorado
Alamosa Riverkeeper
Animas Riverkeeper

Connecticut
Long Island Soundkeeper

Florida
Apalachicola Riverkeeper
Emerald Coastkeeper
Indian Riverkeeper
St. John's Riverkeeper

Georgia
Altamaha Coastkeeper
Altamaha Riverkeeper
Flint Riverkeeper
Ogeechee-Canochee Riverkeeper
Satilla Riverkeeper
Savannah Riverkeeper
Upper Chattahoochee Riverkeeper
Upper Coosa Riverkeeper

Idaho
Silver Valley Waterkeeper

Indiana
Wabash Riverkeeper

Kansas
Kansas Riverkeeper

Kentucky
Kentucky Riverkeeper

Louisiana
Atchafalaya Basinkeeper
Louisiana Bayoukeeper
Lower Mississippi Riverkeeper
Ouachita Riverkeeper

Maine
Casco Baykeeper

Maryland
Assateague Coastkeeper
Baltimore Harbor Waterkeeper
Chester Riverkeeper
Choptank Riverkeeper
Patuxent Riverkeeper
Sassafras Riverkeeper
Severn Riverkeeper
South Riverkeeper
West/Rhode Riverkeeper Inc.

Massachusetts
Buzzards Baykeeper
Housatonic Riverkeeper
Nantucket Soundkeeper

Michigan
Detroit Riverkeeper
Grand Traverse Baykeeper
St. Clair Channelkeeper
Yellow Dog Riverkeeper

Mississippi
Turkey Creekkeeper

Missouri
St. Louis Confluence Riverkeeper

New Jersey
Hackensack Riverkeeper
New York/New Jersey Baykeeper
Raritan Riverkeeper

New York
Buffalo Niagara Riverkeeper
Hudson Riverkeeper
Lake George Waterkeeper
Peconic Baykeeper
Upper St. Lawrence Riverkeeper

North Carolina
Cape Fear Coastkeeper
Cape Fear Riverkeeper
Cape Hatteras Coastkeeper
Cape Lookout Coastkeeper
Catawba Riverkeeper
French Broad Riverkeeper
Haw Riverkeeper
Lower Neuse Riverkeeper
Pamlico-Tar Riverkeeper
Upper Neuse Riverkeeper
Upper Watauga Riverkeeper
Yadkin Riverkeeper
White Oak-New Riverkeeper

Ohio
Western Lake Erie Waterkeeper

Oklahoma
Grand Riverkeeper, Oklahoma

Oregon
Columbia Riverkeeper
Rogue Riverkeeper
Tualatin Riverkeepers
Willamette Riverkeeper

Pennsylvania
Delaware Riverkeeper
Lower Susquehanna Riverkeeper
Youghiogheny Riverkeeper

Puerto Rico
Vieques Waterkeeper

Rhode Island
Narragansett Baykeeper
South County Coastkeeper

South Carolina
Charleston Waterkeeper
Congaree Riverkeeper
Waccamaw Riverkeeper
Santee Riverkeeper

Texas
Galveston Baykeeper

Canada
Canadian Detroit Riverkeeper
Fraser Riverkeeper
Fundy Baykeeper
Georgian Baykeeper
Grand Riverkeeper, Labrador
Lake Ontario Waterkeeper
Ottawa Riverkeeper
Petitcodiac Riverkeeper, Inc./
Sentinelles de la Rivière
Petitcodiac, Inc.

Colombia

Peru

Bolivia

Brazil

Chile

Argentina

Utah
Colorado Riverkeeper

Vermont
Lake Champlain Lakekeeper

Virginia
Blackwater/Nottoway Riverkeeper
James Riverkeeper
Shenandoah Riverkeeper
Upper James Riverkeeper
Virginia Eastern Shorekeeper

Washington
North Sound Baykeeper
Puget Soundkeeper

Washington, DC
Anacostia Riverkeeper
Potomac Riverkeeper, Inc.

Wisconsin
Milwaukee Riverkeeper

West Virginia
West Virginia Headwaters Waterkeeper



Argentina
Parana Waterkeeper

Bolivia
Choqueyapu Riverkeeper

Brazil
Guanabara Baykeeper

Colombia
Bogota Riverkeeper
Cartagena Baykeeper
Colombian Amazonia
Waterkeeper
Jordan Riverkeeper
Meta Riverkeeper

Mexico
Bahia de Los Angeles
Coastkeeper
La Paz Coastkeeper
Loreto Coastkeeper
Los Cabos Coastkeeper
Magdalena Baykeeper
Mexico Valley Waterkeeper
Punta Abreojos Coastkeeper

Peru
Ramis Riverkeeper

Bangladesh
Buriganga Riverkeeper

China
Beijing North Canal Waterkeeper
Middle Han Waterkeeper

Czech Republic
Morava Riverkeeper

England
London Canalkeeper

India
Ganga Riverkeeper Lower Basin
Ganga Riverkeeper Mid Lower Basin
Ganga Riverkeeper Mid Upper Basin
Ganga Riverkeeper Upper Basin
Lower Betwa Riverkeeper
Lower Ken Riverkeeper
Upper Betwa Riverkeeper
Upper Ken Riverkeeper
Yamuna Riverkeeper Downstream Basin
Yamuna Riverkeeper Mid-Downstream
Yamuna Riverkeeper Mid-Upstream
Yamuna Riverkeeper Upstream Basin

Nepal
Bagmati Riverkeeper

Russia
Amur Riverkeeper
Baikal Lakekeeper
Baltic Sea Waterkeeper
Caspian Sea Waterkeeper
Tom' Riverkeeper
Volga Riverkeeper
Vyatka Riverkeeper

Senegal
Hann Baykeeper

Australia
Acheron Riverkeeper
Alpine Riverkeeper
Avon Riverkeeper
Barwon Riverkeeper
Bramble Bay Wetlandskeeper
Coorong, Lakes and Murray
Waterkeeper
Mimosa Waterkeeper
Port Phillip Baykeeper
Safety Beach Waterkeeper
Snowy Estuarykeeper
South Beach Wetlandskeeper
Surry Riverkeeper
Upper Hunter Waterkeeper
Upper Snowy Riverkeeper
Waterkeepers Australia
Werribee Riverkeeper
Yarra Riverkeeper
Yarriambiack Creekkeeper

Waterkeeper Alliance is the most effective advocate for clean water because we act locally and organize globally. Waterkeepers are on patrol in nearly 200 watersheds around the world — standing up to polluters and enforcing your right to clean water.



On The Water

Richard Bickel

Derek Lolly is an oysterman in Apalachicola Bay, one of the richest remaining oyster grounds in America. Its stocks, however, are being destroyed due to increased salinity caused by massive upstream diversions of water that have drastically reduced flow in the Apalachicola River.

Lolly's photograph is part of a collection featured in *Apalachicola River, An American Treasure* by Richard Bickel.



Creating a strong community begins with water.

If you're reading this, you're probably a waterkeeper.

Thanks for doing your part. As we join together, our strength in numbers can change the world. We all know water is not only an environmental issue, but one of human rights, animal rights, health, and at the core - the essence of community.

Causecast is a community. An online community of change-makers, problem solvers, and everyday people who believe we have the power to make a difference.

Join Waterkeeper Alliance on Causecast.org and together we will build a global community of change.



Our saintly sister Carly Wier proves there are Earth Angels among us, for she is a vision of recycled virtue. From her post at the High Country Conservation Center, Carly has created a paradise of preservation in the mountains around Breckenridge, Colorado. By glorifying a zero-waste lifestyle, she is keeping our winters whiter and our earth greener.

And on the seventh day, she skis.

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